

ST-10 An Evaluation of the Effects of Training of Teachers for DISCUS Program on Student's Achievement and Attitudes Toward Themselves, Their Peers, Their Teachers, and Their School. V. G. GIZZI, N. E. BINGHAM, Univ. of Florida. - - This paper will evaluate the effects of trained teachers, i. e., those who completed a Summer Institute and follow-up Inservice program in DISCUS curriculum materials, on student achievement and on attitudes held by students within the DISCUS Program. (The DISCUS Program successfully developed an improved science curriculum at the junior high school level for economically-disadvantaged underachieving students who were potential school dropouts.) Variables tested in this analysis were training of teachers and interactions related to treatment, grade placement, sex, and race. Applied Multiple Linear Regression Techniques for use with the computer as developed by Battenburg, Ward and others were used in the analysis.

ST-11 Ecology in the Junior College. HAROLD SIMS, St. Petersburg Junior College. - - This paper deals with the organization and content of an Ecology course taught to the Freshman level Junior College Student. The course assumes the student has no knowledge of biology or ecology except what was taught during the high school experience. Herein the student learns the basics of ecology and later relates it to problems that face Florida and the world.

ST-12 Reaching Under-Motivated Students -- A Pilot Program. N. SMITH, K. E. CONWAY, J. WARREN, J. THOMPSON, Gainesville High School. - - A unique approach to teach slow under-motivated students will be presented. This technique deals with team teaching, the use of small group dynamics and a deep concern for the student. Under-motivated students are usually turned off by conventional teaching techniques. However, by using this approach each student is drawn to learning by his own success. This approach was undertaken primarily for Biology classes that differed greatly in ability.

SATURDAY MORNING -- MARCH 27, 1971

9:00 A. M. BIOLOGICAL SCIENCES AND CONSERVATION SECTION JOINT SESSION -- Sheldon Dobkin, Presiding. Room 18

Symposium: AQUACULTURE IN FLORIDA - - PROGRESS, PROBLEMS, AND FUTURE.

Introductory Remarks - - Sheldon Dobkin.

SYM-1 Rearing Marine and Fresh-Water Shrimp in Florida. THOMAS J. COSTELLO, National Marine Fisheries Service. - - Considering availability, growth rates, market price, and the status of rearing technology, marine and freshwater shrimp qualify as the prime candidates for an aquaculture industry in Florida. With marine shrimp, the laboratory technology for rearing postlarvae for stocking is complete and available. Techniques for rearing large quantities of brackish water and freshwater shrimp postlarvae are nearly complete, but the method is not generally available. Efficient harvesting of shrimp grown to edible size in enclosed bays and large slatwater ponds is a primary problem. Predation during the grow-out period also has plagued the industry. Nutritional research is needed to develop stable cheap foods for shrimp during the grow-out period. In the future, we may see Florida develop as a base for production of postlarvae in very large quantities.

Economical labor, cheap land and a slightly better climate for growing shrimp make the Caribbean and Central America obvious choices for production of pond-reared shrimp in the immediate future.

SYM-2 Progress, Problems, and Future of Pompano Culture in Florida. JOHN CINUCANE, National Marine Fisheries Service. - Preliminary research during the last two years shows that it is possible to induce spawning of pompano through the use of gonadotrophins such as HCG. Depending on the degree of oocyte development, some fish can be spawned in 24-48 hours using 100-500 I.U. per pound of fish. Steroids at concentrations of 0.5 to 1 mg. per pound of fish were also used in conjunction with HCG to stimulate follicle as well as luteinizing development of the oocytes. Their use increased the percentage of successful egg fertilization. Injections of HCG alone often produced overripeness of the eggs.

Experiments with alteration of photoperiod and water temperature indicate that natural spawning can be accelerated. A daylength of 14 to 16 hours with increasing temperature was most effective for us. Supplemental injections of hormones were often necessary to trigger spawning.

Salinity tolerance studies with juvenile and adult pompano show pompano can be raised successfully in brackish water from 5 to 20 p.p.t. Growth rates at these low salinities were often better than those of control fish kept at normal seawater salinity. A marked increase in fish diseases, especially fungus infections, was noted at low salinities.

Many problems remain to be solved before commercial production of pompano becomes a reality. The principal need is for the development of larval rearing techniques to eliminate the necessity of obtaining wild stock. Culture of natural foods of the right size, nutrition, and quantity for pompano larvae has not yet been successful on a large scale. Research is needed on artificial food substitutes that will reduce the time and costly equipment required to maintain the necessary stocks of natural food organisms such as copepods.

The future of pompano aquaculture is dependent mainly on breakthroughs in nutrition, physiology, and selective breeding. The multispecies concept of raising other fish, mollusks, and crustaceans with pompano should be developed so that the fish farmer can achieve a year-round harvest and fully utilize the entire food chain in pond culture.

SYM-3 Molluscan culture in Florida, ROBERT M. INGLE, Florida Department of Natural Resources. This report will outline the present state of the art and will list problems that stand in the way of a full realization of Florida's potential.

SYM-4 Progress, Problems, and Future of Catfish Culture in Florida. PAUL C. BARRETT, Fare-General Corporation.

Florida has progressed rapidly from pond cultured catfish into tank raceway and cage culture, with this growth has come numerous disease problems related to intensive culture. Also, shortages of quality fingerling suppliers and large market outlets.

Due to its favorable climate and water supply, Florida will lead the way in the intensive culture of catfish in raceways, tanks, and cages.